PATENT CLAIMS

1. A coated, coextruded, biaxially stretched polyolefin film, which comprises at least one base layer B made of polyolefins and a top layer Z made of polyolefins modified using maleic acid anhydride,

characterized in that a coating made of a primer, which forms the primer layer P, is applied to the surface of the top layer Z, and an inorganic coating made of lithium-potassium polysilicates, which forms a polysilicate layer, is applied to the surface of the primer layer P.

2. The polyolefin film according to Claim 1,

characterized in that the coextruded and biaxially stretched basic film has a further top layer on the side diametrically opposite the layer Z.

3. The polyolefin film according to one of Claims 1 through 2,

characterized in that the polysilicate coating is applied from an aqueous solution of lithium and potassium polysilicates.

4. The polyolefin film according to one of Claims 1 through 3,

characterized in that the polysilicate coating is a mixture of lithium and potassium polysilicates of the general formula $(Li_2O)_x(K_2O)_{1-x}(SiO_2)_y$, in which x is the mole fraction of Li_2O and y is the mole ratio $SiO_2:M_2O$ and $x = 0.4$ to < 1 and $y = 1 - 10$.

5. The polyolefin film according to one of Claims 1 through 4,

characterized in that the primer layer is a layer made of PVOH.

6. The polyolefin film according to one of Claims 1 through 5,

characterized in that the PVOH has a degree of hydrolysis of 85 to < 100 %.

7. The polyolefin film according to one of Claims 1 through 6,

characterized in that the layer Z contains 80 to 100 weight-percent of a polypropylene homopolymer, propylene copolymer, or polyethylene grafted using maleic acid anhydride.

8. The polyolefin film according to one of Claims 1 through 7,

characterized in that the polypropylene homopolymer, propylene copolymer, or polyethylene grafted using maleic acid anhydride has a maleic acid anhydride content of 0.05 to 3 weight-percent in relation to the weight of the polymer.

9. The polyolefin film according to one of Claims 1 through 8,

characterized in that the polypropylene homopolymer, propylene copolymer, or polyethylene grafted using maleic acid anhydride has a melting

point of 150 to 165 °C and a Vicat softening point of 120 to 150 °C.

10. The polyolefin film according to one of Claims 1 through 9,

characterized in that the layer Z additionally contains > 0 to 30 weight-percent non-modified olefinic polymers made of propylene, ethylene, or butene units, preferably polyethylene, polypropylene, propylene terpolymers, and propylene copolymers.

11. The polyolefin film according to one of Claims 1 through 10,

characterized in that the basic film has a further top layer made of sealable polyolefinic polymers on the diametrically opposite surface of the base layer.

12. The polyolefin film according to one of Claims 1 through 11,

characterized in that the layer Z has a layer thickness of 0.3 to 3 µm.

13. The polyolefin film according to one of Claims 1 through 12,

characterized in that first a basic film, which comprises at least the base layer B and the layer Z, is manufactured according to the coextrusion method, and subsequently the surface of layer Z is coated with PVOH and subsequently a polysilicate coating is applied to the PVOH coating.

14. The polyolefin film according to one of Claims 1 through 13,

characterized in that the coextruded basic film has further coextruded layers and the basic film is a three-layered, four-layered, or five-layered basic film and the further layers are synthesized from polyolefins.

15. The polyolefin film according to one of Claims 1 through 13,

characterized in that the coextruded basic film is a three-layered film having a sealable top layer on the diametrically opposite side of the base layer, which is synthesized from propylene copolymers or propylene terpolymers.

16. The polyolefin film according to one of Claims 1 through 15,

characterized in that the polyolefin film has an oxygen permeability at 23 °C and 50 % relative humidity of less than 1 $cm^3/m^2*day*bar$.

17. A laminate made of a coated polyolefin film according to one of Claims 1 through 16,

characterized in that the polyolefin film is laminated into a laminate with a polyethylene film using laminating adhesive, the lamination being performed against the polysilicate-coated side.

18. The laminate according to Claim 17,

characterized in that the laminate has an oxygen permeability at 23 °C and 50 % relative humidity of less than 0.5 $cm^3/m^2*day*bar$.

19. The laminate according to one of Claims 17 or 18,

characterized in that a solvent-free laminating adhesive is used for the lamination.

20. A method for manufacturing a coated film,

characterized in that a coextruded, biaxially stretched film is manufactured which has a base layer B and a first top layer Z and a second top layer made of sealable polyolefins, the layer Z being synthesized from polyolefin grafted with maleic acid anhydride and the surface of the layer Z being provided with a PVOH coating and a polysilicate coating being applied from aqueous solution onto the surface of the PVOH coating.